(19) World Intellectual Property Organization International Bureau



(43) International Publication Date 17 February 2005 (17.02.2005)

PCT

(10) International Publication Number WO 2005/014643 A3

(51) International Patent Classification7:

C07K 14/54

(21) International Application Number:

PCT/EP2004/009165

(22) International Filing Date: 29 July 2004 (29.07.2004)

(25) Filing Language: **English**

(26) Publication Language: **English**

(30) Priority Data: 60/490,525

29 July 2003 (29.07.2003)

- (71) Applicant (for all designated States except US): INSERM (Institut National de la Santé et de la Recherche Médicale) [FR/FR]; 101, rue de Tolbiac, F-75654 Paris Cedex 13 (FR).
- (72) Inventors; and
- (72) Inventors; and
 (75) Inventors/Applicants (for US only): PARIS, Françols, Emmanuel. [FR/FR]: 20, Rue Auguste Brizzue, F-44000
 Nantes (FR): JACQUES, Yannick [FR/FR]: 32 is, rue Noire, F-44000 Nantes (FR). CONTENT, Jean [BE/BE]; Avenue Simone Rhode 5, B-1640 Saint Genese (BE).
 WANG, Xiao-Ming [BE/BE]; Boulevard du Souverain 3366/t21, B-1660 Bruxelles (BE). HARMEGNIES, Dimit [BE/BE]; 6, rue des Eperonniers, B-1000 Bruxelles (BE). GRÖTZINGER, Joschim [DE/DE]; Steenrott 20, D-21242 Altwittenbek (DE).

 (74) Agent: PARIS, Fablenne; Cabinet Plasseraud, 65/67, rue de la Victoire, F-75440 Paris Cedex 09 (FR).

 (54) Title: IL-11 MUTEINS

 (55) Abstract: The present invention relates to new IL-11 muteins of which site I hydrophobocity has been increased. These muteins act as IL-11 agonist or hyperagonist, and are notably useful as anti-thrombocytopenia agents, and as agents improving the resistance of or organism to the deleterious in vivo effects induced by radiation or chemotherapy during the treatment of cancer or for the

- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CII, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

of inventorship (Rule 4.17(iv)) for US only

act as IL-11 agonist or hyperagonist, and are notably useful as anti-thrombocytopenia agents, and as agents improving the resistance of an organism to the deleterious in vivo effects induced by radiation or chemotherapy during the treatment of cancer or for the preparation of patient to transplantation.